

Listing of Claims:

1. (Currently Amended) A method for quality assurance of screw joint tightening of a screw joint to a needed pretension condition (F_N) by ~~means of~~ a torque delivering power tool, comprising:

5 performing at least one simulation procedure of a screw joint tightening process via a specific algorithm aiming at said needed pretension condition (F_N) by using programmed data concerning ~~the~~ screw joint geometry, expected frictional conditions, operational characteristics of the power tool, a
10 chosen tightening strategy, and adaptable values of at least one tightening parameter, thereby arriving at a simulated pretension condition (F_S) acceptably close to said needed pretension condition (F_N),

performing in practice a practical screw joint tightening
15 process by controlling the power tool in accordance with said chosen tightening strategy and aiming at said needed pretension condition (F_N) by using said specific algorithm as well as programmed data concerning said screw joint geometry, said operational characteristics of the power tool, and tightening
20 parameter values as derived from said simulation procedure, thereby arriving at a practically processed pretension condition (F_P),

comparing said practically processed pretension condition (F_p) with said simulated pretension condition (F_s), and

25 evaluating the outcome of said comparison for quality acceptance or refusal.

2. (Currently Amended) The method according to claim 1, wherein said simulation procedure is repeated a number of times and based on a method of randomly choosing values of said data within standard deviation ranges, thereby obtaining a mean value
5 and a deviation range of said simulated pretension condition (F_s), and wherein said practically processed pretension condition (F_p) is compared to ~~the~~ limits of said deviation range ~~for obtaining to obtain~~ acceptance or refusal of said practically processed pretension condition (F_p).

3. (Currently Amended) The method according to claim 1, wherein results of said at least one simulation ~~results also includes~~ procedure of the screw joint tightening process include parameter values of torque (T), angle of rotation (A) and torque rate (dT/dA) obtained at the simulated pretension condition (F_s),
5 and the ~~practically obtained~~ parameter values obtained in the practical screw joint tightening process are compared to the parameter values ~~obtained~~ obtained at said at least one simulation procedure of the screw joint tightening process.

4. (Currently Amended) The method according to claim 2, wherein the practical screw joint tightening process is performed repeatedly, and ~~the value~~ values of all resultant practically processed pretension conditions (F_p) are compared and statistically evaluated both with regards to the limits of said deviation range and to said mean value of said simulated pretension condition ~~(F_p)~~ (F_s).

5. (Currently Amended) The method according to claim [[1]] 4, wherein ~~resultant a~~ practically processed pretension ~~conditions~~ condition (F_p) falling outside the limits of said deviation range ~~are analysed~~ is analyzed by tightening and loosening of ~~a~~ an actual screw joint ~~of the actual type,~~ thereby determining whether there is a frictional or geometrical influence that has caused such unacceptable deviation of said practically processed pretension condition (F_p) falling outside the limits of said deviation range.

6. (Currently Amended) The method according to claim [[1]] 2, wherein results of said at least one simulation ~~results also includes~~ procedure of the screw joint tightening process include parameter values of torque (T), angle of rotation (A) and torque rate (dT/dA) obtained at the simulated pretension condition (F_s), and ~~the practically obtained~~ parameter values

10 obtained in the practical screw joint tightening process are compared to the parameter values ~~Obtained~~ obtained at said at least one simulation procedure of the screw joint tightening process.

7. (Currently Amended) The method according to claim 2, wherein ~~resultant a~~ practically processed pretension ~~conditions condition~~ (F_p) falling outside the limits of said deviation range ~~are analysed~~ is analyzed by tightening and loosening of ~~a~~ an
5 actual screw joint ~~of the actual type~~, thereby determining whether there is a frictional or geometrical influence that has caused such unacceptable deviation of said practically processed pretension condition (F_p) falling outside the limits of said deviation range.

Claim 8 (Canceled).

9. (Currently Amended) The method according to claim 6, wherein ~~resultant a~~ practically processed pretension ~~conditions condition~~ (F_p) falling outside the limits of said deviation range ~~are analysed~~ is analyzed by tightening and loosening of ~~a~~ an
5 actual screw joint ~~of the actual type~~, thereby determining whether there is a frictional or geometrical influence that has caused such unacceptable deviation of said practically processed pretension condition (F_p) falling outside the limits of said deviation range.